

OEMmodule™ 486

486SX 100MHz PC/AT

Single Component Computer



Actual Size

*100MHz 486SX
PC/AT multi-chip module*

2MB DRAM

2MB Internal Flash Memory

*Complete motherboard in
a 2.2" X 3" component*

Embedded PC/AT BIOS

Fail-safe Boot ROM™

*Caldera DR-DOS™ and
GSI DOS-ROM™ included*

Low power

*User-selectable speeds for
increased power savings*

Rugged design

*Rapid integration:
Proven PC compatibility*

The OEMmodule 486 Single Component Computer (SCC) provides the fastest, most cost-effective means of incorporating a full PC/AT 486SX 100MHz motherboard into your OEM product. By combining the system hardware, software and solid state mass storage in a single compact device smaller than a credit card, an SCC lowers your exposure to possible development risks and significantly reduces your time-to-market. This unique integrated design makes the OEMmodule 486 ideal for applications that require computing intensive processes, low power consumption, high reliability and a small overall product size.

Quicker design cycle, shorter time-to-market

Designed from inception for use in embedded systems, the OEMmodule 486 requires minimal external components. The embedded BIOS and DOS enable you to develop software on your desktop PC/AT then easily transfer your development work to the embedded system.

Reduce manufacturing costs

By integrating a full 80486SX AT-compatible computer into your proprietary design, you eliminate the need for multiple boards within your product. With the OEMmodule 486 you also eliminate cable connectors and mounting hardware that can vibrate loose and cause reliability problems.

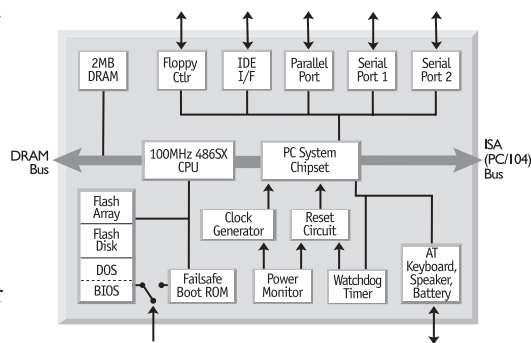
Full-compatibility

Since the OEMmodule 486 is fully compatible with the PC/AT Industry Standard Architecture (ISA) you gain access to:

- Widest selection of hardware and software available.
- Proven architecture supported by hundreds of ISA bus suppliers.
- Cost-effective, readily available development tools and operating systems.

Complete feature set

The OEMmodule 486 contains all standard motherboard features including 100MHz CPU, 2MB DRAM, 2 serial ports, 1 parallel port, floppy and IDE disk controllers, AT keyboard controller, AT-compatible BIOS, General Software Embedded DOS-ROM™ (preloaded), Caldera DR-DOS™, and user-available internal flash for total solid-state operation. This feature set optimizes the OEM designer's ability to quickly incorporate IBM PC/AT hardware, software and bus compatibility within proprietary product designs.



We Make Computing Invisible

SPECIFICATIONS

OEMmodule™ 486 Features

486SX-100MHz CPU

- Full 32-bit internal architecture.
- Cost effective 16-bit hardware environment.
- Virtual memory, paging and hardware enforced protection.
- Physical memory space of up to 64 MB.

DRAM Controller Supports

- 2M bytes on-board DRAM.
- High performance MUXed DRAM interleave, CPU pipelined operation
- Compatible with standard EDO 3.3V DRAMs (70 nS).
- Shadowed RAM.
- Multiple context EMS support.

PC Core Logic with PC/AT Compatibility

- DMA controllers.
- Interrupt controllers.
- Timer/counters.
- AT keyboard controller.
- Realtime clock.

ISA Bus

- Compliant with standard PC/AT expansion bus with an IRQ and DMA channel subset.
- Supports PC/104 implementation.

Fail-safe Boot ROM™

- Embedded ROM.
- Boot to a pre-determined, factory defined state regardless of the internal BIOS flash memory's condition.
- Full flash memory restore functionality via the serial port.
- Recover easily from the corruption or loss of CPU boot data.

Watchdog Timer

- Programmable tickle sources.
- Automatic reset or NMI (jumper selectable) if user application goes out of control.

Serial Ports

- Two 16550-compatible serial ports (up to 115K Baud)

Parallel Port

- Fully compatible with the AT printer port plus bi-directional operation (EPP).

Floppy Disk Controller

- Software compatible with the CMOS765B controller for one or two drives.

- Integrated digital data separator capable of data transfer rates up to 2Mbps.
- Requires no external components.

IDE Hard Drive Interface

- Full 40-pin interface to standard IDE hard disk drive
- Supports up to two IDE drives (master/slave)
- LED activity light support

Solid State Flash Memory Device

- 2MB Internal Flash Memory.
- 1.44MB (formatted) resident flash disk (RFD) available for DOS and OEM software use - normally the boot drive.

PC BIOS

- Preloaded, highly customized version of General Software's Embedded BIOS.
- Standard AT BIOS functionality.
- Support for OEM add-ons and special customization.
- **SETUP** information stored in non-volatile flash EPROM allows battery-free operation.
- Shadowed in DRAM for optimum performance.

Embedded DOS

- General Software Embedded DOS-ROM core preloaded and customized for the OEMmodule 486.
- Caldera DR-DOS available free of charge.
- Support for standard DOS software.

Electrical Specifications

- +5V only $\pm 5\%$ operation.
- Lower power requirement with decreasing processor speed:
 - 100 MHz — 2.5W
 - 66 MHz — 2.0W
 - 33 MHz — 1.5W

Mechanical/Environmental

- **Size:** 2.20" x 3.00" x 0.48" (55.9 mm x 76.2 mm x 12.2 mm)
- **Overall Footprint:** 2.34" x 3.15" (59.5 mm x 79.9 mm)
- **Leads:** 240 (50 x 70) gull wing pins at 0.03" (0.8 mm) width on 0.04" (1.0 mm) pitch. Pin-out optimized for ease of bus layout.
- **Operating temperature:**
 - 40°F to 167°F (-40°C to 75°C) @ 100MHz
 - 40°F to 185°F (-40°C to 85°C) @ 66MHz

- **Storage temperature:** -67°F to 212°F (-55°C to 100°C).

- **Relative humidity:** 5% to 95% non-condensing.
- **Weight:** 2.3 oz. (65 gm).

Ordering Information

Quantity

MOD-486-Q-05

486SX 100MHz with 2MB DRAM, 2MB built-in flash, 2 serial & 1 parallel port, floppy and EIDE controllers, BIOS and DOS. Does not include manuals or utility disk.

MOD-486-Q-03

486SX 33MHz with 2MB DRAM, 2MB built-in flash, 2 serial & 1 parallel port, floppy and EIDE controllers, BIOS and DOS. Does not include manuals or utility disk.

Development Kits

See respective data sheets for complete information.

SLC-486-K-01

ZF SlotCard™ 486 Development Kit - AT-ISA bus card form factor with OEMmodule 486-100MHz, 2MB DRAM, 2MB built-in flash, SVGA controller, speaker, BIOS and DOS, technical manuals, cables and utility software. Does not include external DRAM or flash.

104-486-K-01

ZF 104Card™ 486 Development Kit - PC/104 module with OEMmodule 486-100MHz w/2MB DRAM and 2MB built-in flash, 2MB additional onboard flash (4MB total), 4 serial and 2 parallel ports, BIOS and DOS, technical manuals, cables, and utility disk.



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